UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 April 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,4,6-13,16 and 18-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,4,6-13,16 and 18-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>10/29/07</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This Office action has been issued in response to Applicant's Amendment filed

April 24, 2008. Claims 2-3, 5, 14-15, and 17 have been cancelled. Claims 1, 4, 6-11,

13, 16, and 18-23 have been amended. Claims 1, 4, 6-13, 16, and 18-24 are pending in

this case.

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 4, 6-13, 16, and 18-24 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

4.   Claims 1, 4, 6-13, 16, and 18-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US 2002/0143960 to Goren et al (Goren hereinafter) in view of US

7,095,740 to Jagannath et al. (Jagannath hereinafter).

Regarding claims 1 and 13, Goren teaches **a network decomposition unit**

which decomposes said network into elements, and groups the elements into

network components including at least one core network and branch

networks(Page 5, paragraph [0053]; Goren discloses the virtual network generation

(VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e.,

network, into smaller private sub-networks, i.e. elements and network components.); **a**

table management unit which manages information on decomposition of the

network into said network components by tabulating the information on

decomposition (pg. 2, par. [0013]; Goren discloses the VNG system includes a front-

end interface for provisioning, management an control accessible by clients and at-least

one back-end VNG application system having one or more VNG servers and

databases. Pg. 3, par. [0022]; Goren discloses a technique for establishing private

network communities (PNCs) which includes forming a connection to a system

database, which holds all information related to different users and networks it

manages. Examiner interprets registration process of information, the subsequent

processes that connect to the system database, and associated front-end, back-end,

and other processes to inherently involve management of network information in a

database in some type of tabular information format. Pg. 10, par. [0156]; Goren further

discloses that the virtual network generation (VNG) server handles the network

information table updates. This further supports the inherency of network information

being managed using an information table in the reference.)**; wherein said table**

management unit comprises, a branch information table for managing table for

managing information on structures of said branch networks , a core information

table for managing information on at least one structure of said at least one core

network, a connection information table for managing information on

connections between the at least one core network and the branch networks, and

a virtual-network generation unit which generates a virtual network as a new area

to be managed, by combining said network components based on information

managed by said table management unit (pg. 2, par. [0011]; Goren discloses the

present invention is a virtual network generation (VNG) system and method for

establishing and managing private network communities (PNCs), i.e. network

components, including, potentially, a plurality of isolated and geographically dispersed

electronic devices (or "clients") coupled together over extended and potentially

disparate communication links.); **said virtual-network generation unit, performing:**

(a1) checking that designated branch networks are connected to the identical

core network, where the designated branch networks are branch networks

designated by operator (Pg. 5, par. [0053]; Goren discloses the virtual network

generation (VNG) system can partition, i.e. decompose, any backbone network

infrastructure, i.e., core or branch network, into smaller private sub-networks, i.e.

network components.), **(a2) checking that link bandwidths of the designated branch**

networks do not exceed the value of a link bandwidth of the core network, (b1)

obtaining branch connection points of the designated branch networks from the

branch information table (pg. 2, par. [0013]; Goren discloses the VNG system

includes a front-end interface for provisioning, management an control accessible by

clients and at-least one back-end VNG application system having one or more VNG

servers and databases. Pg. 3, par. [0022]; Goren discloses a technique for establishing

private network communities (PNCs) which includes forming a connection to a system

database, which holds all information related to different users and networks it

manages. Examiner interprets registration process of information, the subsequent

processes that connect to the system database, and associated front-end, back-end,

and other processes to inherently involve management of network information in a

database in some type of tabular information format. Pg. 10, par. [0156]; Goren further

discloses that the virtual network generation (VNG) server handles the network

information table updates. This further supports the inherency of network information

being managed using an information table in the reference.), **(b2) obtaining nodes**

having the branch connection points in the core network from the connection

information table (Pg. 5, par. [0053]; Goren discloses the virtual network generation

(VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e.,

core or branch network, into smaller private sub-networks, i.e. network components; the

VNG system can segment large network infrastructures into smaller, secure, centrally

governed and automatically managed sub-networks, i.e., automatically generated virtual

networks which are combinations of smaller branch networks.), **(b3) obtaining links**

from the core information table, where the links are physical transmission lines

connecting the nodes (Goren, pg. 3, par. [0018]; invention can be used over existing

communication structures including power-lines and cable networks, i.e. network nodes

connected by transmission lines), **(c) generating subnetwork connections by**

connecting the branch connection points, the nodes and the links (pg. 2, par.

[0011]; Goren discloses the present invention is a virtual network generation (VNG)

system and method for establishing and managing private network communities

(PNCs), i.e. network components, including, potentially, a plurality of isolated and

geographically dispersed electronic devices (or "clients") coupled together over

extended and potentially disparate communication links.), **(d) removing the**

subnetwork connections which pass through an identical link from the generated

subnetwork connections (Pg. 2, par. [0011]; Goren discloses a virtual network

generation (VNG) system and method for establishing and managing private network

communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may

be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e.

removed.), **(e) generating the virtual-network by connecting the subnetwork**

connections which pass through different links (Pg. 3, par. [0018]; Goren discloses

In accordance with the present invention, a method of establishing one or more private

network communities (PNC) among isolated and geographically dispersed electronic

devices over existing communication infrastructure is provided. Subsequently, creation

of a PNC is based on a list of addresses representing all clients in the workgroup; the

PNC workgroup membership may be a function of a set of tasks to be accomplished. In

the preferred embodiment, the PNCs include sets of server-managed tunnels

encapsulating data within special communication protocol packets to transport

information that does not otherwise conform to any public network addressing

standards. The end result is that all users, i.e., clients connected to the network,

become virtual nodes relating to different dynamic communities that they created or of

which they are members as branches.).

Although Goren discloses a network information table (Goren; Pg. 10, par.

[0156]), Goren does not expressly disclose the specific type of table described in the

limitations **wherein said table management unit comprises, a branch information**

table for managing table for managing information on structures of said branch

networks , a core information table for managing information on at least one

structure of said at least one core network, a connection information table for managing information on connections between the at least one core network and the branch networks. Goren also fails to disclose **link bandwidths of the designated branch networks do not exceed the value of a link bandwidth of the core network**.

Jagannath discloses a method and apparatus for directing messages through a network **wherein said table management unit comprises, a branch information table for managing information on structures of said branch networks** (Col 1, lines 55-67; Jagannath discloses a method and apparatus for directing messages through a network wherein multiple tables for directing messages through the network are maintained and provided. Each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.)**, a core information table for managing information on at least one structure of said at least one core network** (Col 1, lines 55-67; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.)**, a connection information table for managing information on connections between the at least one core network and the branch networks** (Col 1, lines 55-67; Jagannath discloses in one embodiment the messages are forwarded using plain IP forwarding using a route table associated with the VPN. In another embodiment separate forwarding tables using labels are generated for each virtual private network. The messages are forwarded by looking up the label in the table corresponding to the VPN. In a third embodiment, a single

forwarding table is utilized where the table is built based on separate routing tables for each virtual private network.**), and a virtual-network information table for managing information on a structure of said virtual network after generation of the virtual network** (Col 1, lines 55-67; Jagannath discloses the messages are forwarded by looking up the label in the table corresponding to the VPN. In a third embodiment, a single forwarding table is utilized where the table is built based on separate routing tables for each virtual private network.). Jagannath discloses **link bandwidths of the designated branch networks do not exceed the value of a link bandwidth of the core network** (Jagannath, col. 2, lines 51 – col. 3, line 8).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual private network routing tables for managing information on the structures of the branch networks, core network, core/branch connections, and the creation and managing of the virtual private networks in Goren's virtual network generation system as the use of routing tables to manage this type of network information was commonly known at the time of the invention. It would also have been obvious to a person of ordinary skill in the art to use Jagannath's bandwidth provisioning within the virtual private network with Goren's Goren's virtual network generation system as provisioning specific bandwidths over a virtual private network per Jagannath was known at the time of the invention.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claims 4 and 16, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **wherein said branch information table stores branch numbers indicating said branch networks** (Pg. 5, par. [0055]; Goren discloses a system database for holding system information, such as all user, workgroup, and network attributes, general control information, log data, and billing information. Goren further discloses that in the inventions preferred form, the data storage device also includes the central data behind all the private network communities (PNC) server's operational logic, serving as the data repository for all of the PNC server building blocks (e.g. the provisioning web server device, the data packet switch server device and the data access and security management service), **and said virtual-network generation unit automatically generates said virtual network by combining said ones of the branch networks when ones of the branch numbers corresponding to the ones of the branch networks are externally designated** (pg. 2, par. [0018]; Goren discloses, a virtual network generation system by which the PNCs become virtual nodes relating, i.e., corresponding to different dynamic communities that they created or of which they are members, i.e. designated.).

Although Goren discloses a network information table (Goren; Pg. 10, par. [0156]), he does not expressly disclose the specific type of table described in the

limitation **wherein said branch information table stores branch numbers indicating said branch networks**. Jagannath discloses a method and apparatus for directing messages through a network **wherein said branch information table stores branch numbers indicating said branch networks** (Col 1, lines 55-67; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual private network routing tables and VPN-IDs for managing information on the structures of the branch networks, core network, core/branch connections, and the creation and managing of the virtual private networks in Goren's virtual network generation system as the use of routing tables to manage this type of network information was commonly known at the time of the invention.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claims 6 and 18, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **wherein said table management unit further comprises a protection information table which contains information on protection of channels between nodes in the at least**

one core network (Pg. 10, par. [0156]; Goren discloses that the VNG server handles

the network information table updates.)**, and said virtual-network generation unit**

generates subnetwork connections by preferentially selecting ones of the

channels which are not protected, based on the protection information table (Pg.

2, par. [0011]; Goren discloses a virtual network generation system and method that is

setup and controlled automatically, dynamically and remotely routes through public

networks in a manner that enables substantially similar security and functionality

available in traditional private networks, such as a LAN. The virtual network generation

(VNG) system and method is for establishing and managing private network

communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may

be selectively assembled, disassembled, reassembled, joined, disjoined in various

configurations. Pg. 10, par. [0156]; Goren discloses that the VNG server handles the

network information table updates. Although Goren discloses a network information

table (Goren; Pg. 10, par. [0156]), he does not expressly disclose the specific type of

table described in the limitation **wherein said table management unit further**

comprises a protection information table which contains information on

protection of channels between nodes in the at least one core network, and said

virtual-network generation unit generates subnetwork connections by

preferentially selecting ones of the channels which are not protected, based on

the protection information table.

Jagannath discloses a method and apparatus for directing messages through a

network **wherein said table management unit further comprises a protection**

information table which contains information on protection of channels between

nodes in the at least one core network (Col 1, lines 55-67; Jagannath discloses

each table corresponds to a virtual private network and contains routing information

specific to that virtual private network. A separate routing table is maintained for each

VPN.)**, and said virtual-network generation unit generates subnetwork**

connections by preferentially selecting ones of the channels which are not

protected, based on the protection information table (Col 1, lines 55-67; Jagannath

discloses each table corresponds to a virtual private network and contains routing

information specific to that virtual private network. A separate routing table is

maintained for each VPN. Jagannath discloses address information is kept private, i.e.

protected, in the virtual private network even though many public networks may exist

between the users. For other limitations, please refer to the previously noted citations

to Goren above)**.**

     Goren and Jagannath are analogous art because they are from the same field of

endeavor of network management relating to virtual networks.

     At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to use Jagannath's virtual private network routing tables for managing

information on the structures of the branch networks, core network, core/branch

connections, and the creation and managing of the virtual private networks in Goren's

virtual network generation system as the use of routing tables to manage this type of

network information was commonly known at the time of the invention.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claims 7 and 19, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **wherein when a branch network is added to said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added, and disjoined.) **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by addition of the branch network** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least**

one other path, changing subnetwork connections in one of said at least one core network after the switching (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter making settings for connecting paths to nodes in the added branch network** (Pg. 5, par. [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., core or branch network, into smaller private sub-networks, i.e. network components.).

Regarding claims 8 and 20, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **wherein when a branch network is removed from said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.), **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the branch network** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing

one or more private network communities (PNC) among isolated and geographically

dispersed electronic devices over existing communication infrastructure is provided.

Subsequently, creation of a PNC is based on a list of addresses representing all clients

in the workgroup; the PNC workgroup membership may be a function of a set of tasks

to be accomplished. In the preferred embodiment, the PNCs include sets of server-

managed tunnels encapsulating data within special communication protocol packets to

transport information that does not otherwise conform to any public network addressing

standards. The end result is that all users, i.e., clients connected to the network,

become virtual nodes relating to different dynamic communities that they created or of

which they are members as branches.**), switching said at least one path to at least

one other path, changing subnetwork connections in one of said at least one

core network after the switching** (Pg. 2, par. [0017]; The core functionality hosted by

the VNG server(s) may include several modules necessary for establishing and

managing each PNC, authenticating users, managing security keys, switching/routing

PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be

appreciated by those skilled in the art, the foregoing functionality may be distributed

among a variety of types of resources and the managers identified herein are merely

used for illustrative purposes.**), and thereafter removing subnetwork connections

related to said at least one path from nodes in the removed branch network** (Pg.

2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method

for establishing and managing private network communities (PNCs), i.e. subnetwork

connections. Goren further discloses, PNCs may be selectively assembled,

disassembled, reassembled, joined, and disjoined, i.e. removed.).

Regarding claims 9 and 21, Goren-Jagannath discloses the invention

substantially as described in claims 1 and 13 above including, **wherein when a node**

is added to a branch network in said virtual network (Pg. 2, par. [0011]; Goren

discloses a virtual network generation (VNG) system and method for establishing and

managing private network communities (PNCs), i.e. node. Goren further discloses,

PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added,

and disjoined.), **said virtual-network generation unit changes a structure of the**

virtual network by determining at least one path in the virtual network which is

affected by addition of the node (Pg. 3, par. [0018]; Goren discloses In accordance

with the present invention, a method of establishing one or more private network

communities (PNC) among isolated and geographically dispersed electronic devices

over existing communication infrastructure is provided. Subsequently, creation of a

PNC is based on a list of addresses representing all clients in the workgroup; the PNC

workgroup membership may be a function of a set of tasks to be accomplished. In the

preferred embodiment, the PNCs include sets of server-managed tunnels

encapsulating data within special communication protocol packets to transport

information that does not otherwise conform to any public network addressing

standards. The end result is that all users, i.e., clients connected to the network,

become virtual nodes relating to different dynamic communities that they created or of

which they are members as branches.), **switching said at least one path to at least**

one other path (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **thereafter making settings for connecting paths to the added node** (Col 1, lines 55-67; Goren discloses electronic devices connected to the dynamic private network become virtual nodes relating to different PNCs.), **and adding information on the added node to said branch information table** (Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates.) Although Goren discloses a network information table (Goren; Pg. 10, par. [0156]), he does not expressly disclose the specific type of table described in the limitation **and adding information on the added node to said branch information table.**

Jagannath discloses a method and apparatus for directing messages through a network **and adding information on the added node to said branch information table** (Col 1, lines 55-67; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual private network routing tables for managing information on the structures of the branch networks, core network, core/branch connections, and the creation and managing of the virtual private networks in Goren's virtual network generation system as the use of routing tables to manage this type of network information was commonly known at the time of the invention.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claims 10 and 22, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **wherein when a node is removed from a branch network in said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.), **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the node** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically

dispersed electronic devices over existing communication infrastructure is provided.

Subsequently, creation of a PNC is based on a list of addresses representing all clients

in the workgroup; the PNC workgroup membership may be a function of a set of tasks

to be accomplished. In the preferred embodiment, the PNCs include sets of server-

managed tunnels encapsulating data within special communication protocol packets to

transport information that does not otherwise conform to any public network addressing

standards. The end result is that all users, i.e., clients connected to the network,

become virtual nodes relating to different dynamic communities that they created or of

which they are members as branches.), **switching said at least one path to at least**

one other path (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s)

may include several modules necessary for establishing and managing each PNC,

authenticating users, managing security keys, switching/routing PNC traffic, terminating

PNCs, logging usage, and (optionally) billing users. As will be appreciated by those

skilled in the art, the foregoing functionality may be distributed among a variety of types

of resources and the managers identified herein are merely used for illustrative

purposes.), **and thereafter removing information on the removed node from said**

branch information table (Pg. 2, par. [0011]; Goren discloses a virtual network

generation (VNG) system and method for establishing and managing private network

communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively

assembled, disassembled, reassembled, joined, and disjoined, i.e. removed. Pg. 10,

par. [0156]; Goren discloses that the VNG server handles the network information table

updates). Although Goren discloses a network information table Pg. 10, par. [0156], he

does not expressly disclose the specific type of table described in the limitation, **and thereafter removing information on the removed node from said branch information table.**

Jagannath discloses a method and apparatus for directing messages through a network **wherein when a node is removed from a branch network in said virtual network, said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the node, switching said at least one path to at least one other path, and thereafter removing information on the removed node from said branch information table** (Col 1, lines 55-67; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.
At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual private network routing tables for managing information on the structures of the branch networks, core network, core/branch connections, and the creation and managing of the virtual private networks in Goren's virtual network generation system as the use of routing tables to manage this type of network information was commonly known at the time of the invention.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claims 11 and 23, Goren-Jagannath discloses the invention substantially as described in claims 1 and 13 above including, **further comprising a virtual-network display unit which displays said virtual network by generating virtual lines based on connections between nodes in said ones of branch networks and subnetwork connections in one of said at least one core network which connect the ones of branch networks** (Pg. 6, par. [0100]; Goren discloses a client-based Graphical User Interface (GUI) browser interface module, i.e. display unit, responsible for facilitating all user-level command and control interactions with the VNG web server including set-up, manage, logon/off, register, monitor, change attributes, invite new workgroup members, access to PNC functionality, thereby enabling browser-based user registration, private network communities (PNC) creation, management, monitoring, log viewing and (optionally) billing.).

Regarding claims 12 and 24, Goren-Jagannath discloses the invention substantially as described in claims 11 and 23 above including, **wherein when a trouble occurs in a link, and a failure of a subnetwork connection is detected** (Pg. 10, par. [0154]; Goren discloses upon some termination event, e.g., completion of tasks, time out, i.e. failure of a subnetwork connection, security violation, and so on, disassembly of the PNC, i.e. subnetwork connection, occurs), **said virtual-network display unit displays information on the failure with one of said virtual lines corresponding to the subnetwork connection** (Pg. 6, par. [0100]; Goren discloses a

client-based Graphical User Interface (GUI) browser interface module, i.e. display unit,

responsible for facilitating all user-level command and control interactions with the

VNG web server including set-up, manage, logon/off, register, monitor, change

attributes, invite new workgroup members, access to PNC functionality, thereby

enabling browser-based user registration, private network communities (PNC) creation,

management, monitoring, log viewing and (optionally) billing.).

Conclusion

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TARIQ S. NAJEE-ULLAH whose telephone number is (571)270-5013. The examiner can normally be reached on Monday through Friday 8:30 - 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

T. N.

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2146